Now Includes Tech Investing

NEWTON'S TELECOM DICTIONARY

OVER 21,000 TERMS

The Official Dictionary
of Telecommunications,
Networking and the Internet

17th Updated and Expanded Edition
by Harry Newton

sponds to a visible color of light in the overall light spectrum. See also DWDM, Lambda, SONET and WDM.

2. A flow-control mechanism in data communications, the size of which is equal to the number of frames, packets or messages that can be sent from a transmitter to a receiver before any reverse acknowledgment is required. It's called a pacing group in IBM's SNA.

3. A box on the CRT (cathode ray tube) of your personal computer or terminal. A software program is running inside the box. It's possible with new "windows" software to run several programs simultaneously, each accessible and visible through the "window" on your CRT.

4. A technique of displaying information on a screen in which the viewer sees what appears to be several sheets of paper much as they would appear on a desktop. The viewer can shift and shuffle the sheets on the screen. Windowing can show two files simultaneously. For example, in one window you might have a letter you're writing to someone and in another window, you might have a boilerplate letter from which you can take a paragraph or two and drop it in your present letter. Being able to see the two letters on the screen makes writing the new letter easier.

5. Video containing information or allowing information entry, keyed into the video monitor output for viewing on the monitor CRT. A window dub is a copy of a videotape with time code numbers keyed into the picture.

6. A video test signal consisting of a pulse and bar. When viewed on a monitor, the window signal produces a large white square in the center of the picture.

Window Control A credit or token scheme in which a limited number of messages or calls are allowed into the system.

Window Segment Size A parameter used to control the flow of data across a connection. A wireless term.

Window Size The minimum number of data packets that can be transmitted without additional authorization from the receiver.

Window Treatment You take the world's most beautiful window and you screw it up with expensive stuff you affix around it. Paula Friesen invented the term.

Windowing 1. A split screen in some data CRT displays, permitting display of two events simultaneously. For example, you could run several programs simultaneously — each in running a separate window. For example, in one window you might run a word processing program. In another, you might be calculating a spreadsheet. In a third, you might be picking up your electronic mail.

2. A technique in (mostly PC) data communications protocols that permits the sender to run ahead in transmission, backing up to resend if the receiver signals an error in a recently-sent block; closely akin to "Go Back N" in IBM's SDLC.

WinInet API The Microsoft Win32 Internet functions. These functions provide Win32 applications with access to common Internet protocols. These functions pluck out the heart of the Internet's Gopher, FTP, and HTTP protocols and turn them into an application programming interface (API). This provides a straightforward path to making applications Internet-aware.

WinISDN WinISDN is ISDN*Tek's API for talking to internal ISDN modems. It supports all of the high level functions for call setup and answering on an ISDN modem. Most of the more popular internal ISDN modems support WinISDN. One of the ways WinISDN helps increase throughput is by handling data transfers in large blocks rather than one byte at a time. The overhead on single byte transfers is much higher than handling a single block.

Window The mechanism used for flow control in a packet switched network to prevent overload in the network. The window size indicates the number of packets a user can have outstanding (unacknowledged) in a network at any given time.

Windows A Microsoft operating system that hides the cryptic DOS system of typed commands behind a graphical facade (also called a Graphical User Interface, GUI). Windows let you issue commands (i.e. run programs and complete tasks within programs) by pointing (with or without a mouse) at symbols or menu items and clicking, or hitting "Enter." Most Windows programs have the same "look and feel" to them. So issuing commands becomes almost intuitive. The idea is that "use one Windows program, you can use them all." Sort of. The latest versions of Windows were 3.1 and 3.11 (also called Windows for Workgroups). These versions contained two big improvements over 3.0 — namely OLE (Object Linking and Embedding) and DLL (Dynamic Link Library). Windows 3.1 and 3.11 is now about to be obsoleted by a new version, called Windows 95. See DLL, OLE, Windows 95, Windows for Workgroups, Windows NT and Windows Telephony.

Windows 95 Windows 95 is an operating system from Microsoft which first shipped on August 24, 1995. The August, 1995 issue of our Computer Telephony Magazine said the following about Windows 95:

Win95 is the first Windows operating system designed for communications. It does for modems and phones (of all sorts — from single line analog to proprietary ISDN phones) what Windows did for printing — insulate the suffering user from the idiocies of device drivers. Win95 does wonders for fax, for sending color pictures of the kids to Grandma and for making the world one gigantic personal local area network. And, for the first time ever, an operating system is treating voice as it should be treated — another media stream no different, no more complex than printing a pretty document.

Computer Telephony (voice, fax, e-mail) is a major focus of Windows 95. It will have a revolutionary impact on computer telephony's desktop interface and CT-enabling hardware, from simple off-the-shelf SOHO apps built on inexpensive multimedia modems to full-blown unified-messaging systems humming on the LAN. One of the key improvements of Win95 over Windows 3.xx is the replacement of the latter's monolithic communications driver (COMM.DRV) with a far more flexible communications architecture that splits communication tasks into three primary areas: Win32 communications APIs and TAPI; the universal modem driver; and comm port drivers.

VCOMM is the new communications device driver. It protect-modes services and lets Windows apps and drivers use ports and modems. To conserve system resources, comm drivers are loaded into memory only when in use by an app. VCOMM also uses new Plug and Play services in Windows 95 to help configure and install comm devices. The Win32 communications APIs provide an interface for using modems and comm devices in a device-independent fashion. Applications call the Win32 APIs to configure modems and perform data I/O through them. Through TAPI, meantime, apps can control modems or other telephony devices.

The universal modem driver (Unimodem) is a layer that provides services for data and fax modems and voice so that users and app developers don't have to learn or maintain difficult modem AT commands to dial, answer and configure modems. Rather, Unimodem does these tasks automatically by using mini-drivers written by modem vendors. Unimodem is both a VCOMM device driver and a TAPI service provider. Other service providers (like those supporting things such as an ISDN adapter, a proprietary PBX phone or an AT-command modem) can also be used with TAPI. Port drivers are specifically responsible for communicating with I/O ports, which are accessed through the VCOMM driver. Port drivers provide a layered approach to device communications.

For example, Win95 provides a port driver to communicate with serial communications and parallel ports, and other vendors can provide port drivers to communicate with their own hardware adapters, such as multiport voice and fax cards. With the port driver model in Win95, it's not necessary for vendors to replace the communications subsystem as they did in Windows 3.xx, whose COMM.DRV forced people to completely replace the comm driver if something new was needed by a hardware device. The Win95 driver means we no longer have to be "hard wired" to a 16550 UART. Previous versions of Windows assumed this type of port hardware. This means new ports like USB (Universal Serial Bus) can be slipped in with full apps compatibility.

Besides this strong attempt at "virtualizing" many of the communications hardware interface problems that plagued Windows developers in the past, Win95 also strengthens itself considerably by acknowledging voice as a data type, filtered into its Plug and Play world of communication device compatibility via the Windows Telephony API (TAPI). TAPI-aware apps, for example, no longer need to provide their own modem support list because interaction with a modem is now centralized by the OS. All comm services provided with Win95 use these services. (The analogy is printing under Windows 3.xx.)

TAPI provides a standard way for communications apps to control telephony functions for data, fax and voice calls. It manages all signaling between a computer and phone network, including basic functions such as dialing, answering and hanging up a call. It also includes supplementary call-handling things such as hold, transfer, conference and call park that are often found in PBXs, Centrex, ISDN and other phone systems. In general, TAPI services arbitrate requests from apps to share comm ports and devices. Win32-based apps can use TAPI to make outgoing calls while others are waiting for incoming calls. Of course, only one call can be performed at a time, but users no longer have to close apps that are using the comm port.

TAPI does not need local hardware. It can also use drivers that work on a LAN, which support multiple systems today (e.g. Genesys, Dialogic's CT Connect, Northern Telecom's Tmap, etc.) Microsoft is making the client side ubiquitous and is planning on dropping the server side in (i.e. Windows NT Server) shortly.

MODEMING: Win95 lets you install and configure a modem once to work for all communi-

nications apps, just as you
configuration through the
ed for Windows 95; Suppo
of them (again, just like V
tion using point-and-click o
The Windows OS includes
computers through a mode
data bits, stop bits and pari
bers for voice calls. It inclu
log. 3. Microsoft File Tran
phone. This works with Vo
E-MAILING: Also in Win95
a messaging app that retr
service providers, including
Microsoft Exchange client,
files and objects created in
colors and text alignments
ate a personal address boo
ers for storing related mes
According to Microsoft, Exc
messaging app that has a
schematic. The MAPI servi
needed to talk with a mail
MAPI is a set of API fun
Microsoft Exchange, inter
Mail, Microsoft Exchange
running under Windows N
and defines the purpose
users will never know or c
FAXING: As part of Window
With this embedded Gre
Microsoft Fax can exchang
etc.) as easily as printing
must install Microsoft Exc
programming interface (N
in the Exchange universal
message or by using the
(such as Microsoft Excel c
er share so that users car
Key features: 1. Delivery
mix different types of rec
a message simultaneou
Internet, normal fax and
defined within Microsoft
Microsoft Exchange Perso
that you use just once, s
1. Binary File Transfer (B
it possible to attach an e
editable documents can l
and other Microsoft FAX
2. Security. Microsoft Fa
lic key encryption or digi
message is passed to the
3. Network Fax Service.
other users within a wo
installed and still use the
4. Microsoft Fax Viewer
have been queued to a l
for transmission. You ca
5. Connecting to Fax In
systems by using a built
or editable documents fr
6. "Best Available" Fa: